

IN THE CLAIMS

1. (Currently Amended) A multi-channel digital data sending-out apparatus

comprising:

management means for supervising ~~the~~ information gathered from at least one of an information source;

programming means for supervising ~~the~~ information of ~~the material~~ digital data being sent and programming controlling the progress of the digital data to be sent out;

registering means for registering the information of the ~~materials~~ digital data to be sent out;

holding means for holding ~~a plurality of said materials~~ the digital data;

sending-out means for sending out the ~~plural materials~~ digital data held by said holding means to a transmission path as a multi-channel digital data; ~~and holding means for holding a plurality of said materials; and~~

connection means for interconnecting said management means, programming means, registering means, holding means and the sending-out means to permit each of ~~these~~ said means to access at least one ~~an~~ other of said means.

2. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 1, wherein said sending-out means comprises:

first sending-out means for doing sending processing;

second sending-out means for doing sending processing; and

switching means for switching one of the first sending-out means or the second sending-out means to the other if one of said first or second ~~one of the~~ sending-out means is in disorder.

3. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 1 further comprising:

send-out management means for ~~supervising~~ controlling the sending-out of multi-channel digital data; and

multi-channel monitoring means for monitoring the sending-out of the multi-channel digital data.

4. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 1 further comprising:

conversion means for converting the format of the ~~plural materials~~ digital data held by said holding means into a transmission format, ~~by software~~ and for multiplexing time information, service identification information, and ~~the~~ service management information ~~thereon~~ to generate a stream which is ~~outputted~~ sent out.

5. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 4, wherein said conversion means ~~includes~~ comprises:

auxiliary holding means for holding at least a two-day installment ~~installments~~ of the digital data materials, progress information and ~~the~~ system configuration information ~~held by said holding means~~.

6. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 5, wherein said system configuration information is updated using a portion of ~~the~~ a file name thereof.

7. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 4, wherein said conversion means ~~includes~~ comprises:

current operating system conversion means ~~in an actually working state~~;
and

stand-by conversion means ~~worked in substitution~~ to be substituted for said current operating system conversion means in case of a malfunction of the current operating system malfunctioning thereof.

8. (Currently Amended) A multi-channel digital data sending-out method comprising:

a management step for supervising ~~the~~ information gathered from at least one of an information source;

a programming step for supervising the information of ~~the material~~ digital data being sent and ~~programming~~ controlling the progress of the digital data to be sent out;

a registering step for registering the information of the ~~material~~ digital data to be sent out;

a holding step for holding ~~a plurality of said materials~~ the digital data;

a sending-out step for sending out the ~~plural materials~~ digital data held by said holding means to a transmission path as multi-channel digital data; and

a connection step for interconnecting the processing operations of said management step, programming step, registering step, holding step and the sending-out step so that the processing operation at each of said steps will be associated with the processing operation at least one ~~an~~ other of said steps.

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9. (Currently Amended) A multi-channel digital data sending-out apparatus comprising:

holding means for a holding ~~a plurality of materials~~ digital data to be sent out;

reproducing means for reading out and reproducing the ~~materials~~ digital data held by said holding means;

encoding means for real-time encoding of the materials digital data reproduced by said reproducing means;

conversion means for converting the format of ~~said plural materials~~ the digital data held by said holding means or the ~~plural materials~~ digital data encoded in real-time by said encoding means into a format for transmission;

sending-out means for sending out the ~~materials~~ digital data converted by said conversion means to the transmission path as multi-channel digital data; and

connection means for interconnecting said holding means, reproducing means; encoding means; conversion means and sending-out means to permit each of ~~these~~ said means to access ~~an~~ at least one other of said means.

10. (Currently Amended) The multi-channel data sending-out apparatus according to claim 9, wherein said conversion means multiplexes ~~the~~ time information, service identification information and ~~the~~ service management information ~~on said materials of said digital data~~ into a ~~sole~~ single stream.

11. (Currently Amended) A multi-channel digital data sending-out method comprising:

a holding step for holding ~~a material~~ digital data to be sent out;

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a reproducing step for reading out and reproducing the digital data
~~material~~ held by said holding step;

an encoding step for real-time encoding of the digital data ~~material~~
reproduced by said reproducing step;

a conversion step for converting the format of ~~said plural materials~~ the
digital data held by said holding means or the ~~plural materials~~ digital data
encoded in real-time by said encoding step into a format for transmission;

a sending-out step for sending out the ~~materials~~ digital data converted by
said conversion step to ~~the~~ a transmission path as multi-channel digital data; and

a connection step for interconnecting the processing operations of said
holding step, reproducing step, encoding step, conversion step, and the sending-
out step so that the processing operation at of each of said steps ~~will be~~ is
associated with the processing operation at least one ~~an~~ other of said steps.

12. (Currently Amended) A multi-channel digital data sending-out apparatus
comprising;

holding means for holding ~~a plurality of materials~~ digital data to be sent
out;

conversion means for converting the format of ~~said plural materials~~ the
digital data held by said holding means into a format for transmission;

a sending-out ~~step~~ means for sending out the ~~materials~~ digital data
converted by said conversion ~~step~~ means to ~~the~~ a transmission path as multi-
channel digital data;

monitoring means for monitoring ~~materials~~ digital data read out from said holding means, ~~materials~~ digital data converted by said conversion means or ~~materials~~ digital data said sent out by said sending-out means; and

supplying means for supplying the ~~materials~~ digital data read out from said holding means, ~~materials~~ digital data converted by said conversion means or ~~materials~~ digital data sent out by said sending-out means.

13. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 12, wherein said monitoring means further monitors said ~~materials~~ digital data transmitted to the transmission path from said sending-out means, received and demodulated.
14. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 12, wherein said monitoring means includes detection means for detecting ~~the~~ a level of the digital data ~~each material~~.
15. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 14, wherein said detection means issues an alarm if said ~~materials~~ digital data ~~substantially are~~ is not monitored for longer than a predetermined period.
16. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 12, wherein said sending-out means comprises:
- first sending-out means for ~~doing~~ performing sending-out processing;
- second sending-out means for ~~doing~~ performing sending-out processing;
- and

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switching means for switching ~~ones for~~ from the first sending-out means or the second sending-out means to the other of said first and second sending out means in the event of a malfunction of either said first or second sending out means if said one of the sending-out means is in disorder.

17. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 16, wherein said monitoring means includes a switch for selecting ~~materials~~ digital data to be monitored, and wherein said switch is being ~~controlled~~ responsive to ~~switching by~~ said switching means.
18. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 12, wherein said monitoring means for monitoring the ~~material~~ digital data converted by said conversion means displays ~~the~~ information concerning ~~a material~~ digital data converted ~~based on a progress table~~ by said conversion means and sent out, and ~~a material~~ digital data which is to be converted and sent out, in a progress table.
19. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 12 further comprising:
- reproducing means for reproducing ~~a material~~ digital data transmitted from said sending-out means to the transmission path, and wherein the reproduced digital data is designated on the progress table.
20. (Currently Amended) A multi-channel digital data sending-out method comprising:
- a holding step for holding ~~a plurality of materials~~ digital data to be sent out;

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a conversion step for converting the format of ~~said plural materials~~ the digital data held by said holding step into a format for transmission;

a sending-out step for sending out the ~~materials~~ digital data converted by said conversion step to ~~the~~ a transmission path as multi-channel digital data;

a monitoring step for monitoring ~~materials~~ the digital data read out from said holding step, ~~materials~~ digital data converted by said conversion step or digital data ~~materials~~ sent out by said sending-out step; and

a supplying step for supplying the ~~materials~~ digital data read out from said holding step, ~~materials~~ digital data converted by said conversion step or ~~materials~~ digital data sent out by said sending-out step.

21. (Currently Amended) A multi-channel digital data sending-out apparatus comprising:

programming means for supervising the information of digital data a ~~material~~ to be sent out, programming the digital data to be sent out as to its progress, and for generating ~~the~~ progress information;

holding means for holding the information ~~on~~ of the ~~materials~~ digital data, the progress information, and any other information necessary for sending out the ~~materials~~ digital data;

conversion means for converting the format of the ~~plural materials~~ digital data into a format for transmission;

sending-out means for sending out the ~~plural materials~~ digital data converted by said conversion means to ~~the~~ a transmission path as multi-channel digital data; and

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monitoring means for monitoring said programming means, conversion means or said sending-out means as to malfunctioning thereof so that required the information held by said holding means ~~and which is currently required will be~~ is supplied to said programming means, conversion means or said sending-out means.

22. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 21, wherein said sending-out means comprises;

first sending-out means for ~~doing~~ performing sending processing;

second sending-out means for ~~doing~~ performing sending processing; and

switching means for switching one of the first sending-out means or the second sending-out means to the other if ~~said~~ one of the first or second sending-out means is in disorder.

23. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 22, wherein said first sending-out means and ~~the~~ said second sending-out means monitor each other so that, if one of the first sending-out means and the second sending-out means ~~is in disorder~~ malfunctions, the other ~~advises~~ signals said monitoring means ~~of that effect~~.

24. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 22, wherein the one of said first sending-out means or ~~the~~ said second sending-out means that is ~~actually~~ operating, advises said holding means in a pre-set manner.

25. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 21, wherein said conversion means comprises: ~~is made up of~~

a current operating system converting means; ~~in an actually working state~~
and

stand-by ~~exchanging~~ converting means ~~worked in substitution for said~~
~~current operating system converting means~~ in case of malfunctioning of the
current operating system converting means.

26. (Currently Amended) The multi-channel digital data sending-out apparatus according to claim 21, wherein said conversion means includes auxiliary holding means for holding, ~~for assurance sake,~~ at least a one-day installment of the information held by said holding means.

27. (Currently Amended) A multi-channel data sending-out method comprising:

a programming step for supervising the information of ~~a material~~ digital data to be sent out, for programming the digital data to be sent out as to its progress, and for generating ~~the~~ progress information;

a holding step for holding the information ~~on the materials~~ of the digital data, the progress information and any other information necessary for sending out the ~~materials~~ digital data;

a conversion step for converting the format of the ~~plural materials~~ digital data at said holding step into a format for transmission;

a sending-out step for sending out the ~~plural materials~~ digital data converted by said conversion means to ~~the~~ a transmission path as multi-channel digital data; and

a monitoring step for monitoring errors in said steps so that, if errors occur in the processing in any of the above steps, the information held in said holding

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step ~~and which is currently required~~ will be presented for and utilized in
processing in each of said steps.

Claims 28-34 (Cancelled)
